Environmental Cleanup REVIEW 2

Several important events have taken place in the past year that move forward the process of environmental cleanup at the Jet Propulsion Laboratory (JPL). This fact sheet describes the "Superfund" process, what has been done at JPL during the past year, what remains to be done and how the community will be kept informed of progress.

The Superfund Process

In October 1992, JPL was placed on the U.S. Environmental Protection Agency's (EPA's) National Priorities List. In common language, JPL became a "Superfund site."

"Superfund" is the informal name for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), a law passed by Congress in 1980. In 1986, the law was amended by the Superfund Amendments and Reauthorization Act (SARA), which added provisions applicable to Federal facilities.

In response to SARA, JPL conducted a preliminary assessment and site inspection in 1988, followed by an expanded site inspection in 1990. These studies indicated the presence of several industrial solvents in groundwater near JPL at levels above California drinking-water standards. These solvents include trichloroethylene (TCE), perchloroethylene (PCE), carbon tetrachloride (CTC) and 1,1-dichloroethane.

Placement on the Superfund list means that environmental cleanup at the Laboratory will now be overseen by the EPA. This will allow JPL and the National Aeronautics and Space Administration (NASA) to combine their efforts with the EPA and state agencies as the cleanup progresses.

To lay the groundwork for the cleanup process, the first step after JPL was placed on the list was for NASA and the EPA to negotiate a Federal facilities agreement that covers how investigation and cleanup work will be conducted. This negotiation was completed in December 1992.

The next broad step in the cleanup process is known as a remedial investigation/feasibility study. During this phase, the site is carefully studied in order to determine where the contamination originated, how it is moving and how best to clean it up.

After agreement is reached among NASA, EPA and California state agencies on the best cleanup solution, it will be formally documented in what is known as a record of decision. The cleanup procedure will then be designed and implemented. Finally, effectiveness of the cleanup solution will be monitored over time in the final step, known as operation and maintenance.

Test Wells at JPL

Although not yet required by the Superfund process, JPL for many months has been moving ahead with work to study site contamination. Several different techniques are used to test for contaminants: monitoring wells, which measure contamination in groundwater; a technique called soil gas survey, which examines volatile organic chemicals in the soil; and soil borings, which look for those and other chemicals in the soil.

In previous years, a total of seven groundwater monitoring wells were drilled at various sites at and near the Laboratory. Four more wells have been recently completed and are scheduled for sampling soon. This brings the total to 11 wells.

In 1992 JPL also carried out a soil gas survey, a procedure that tests for contamination by extracting gas from the soil. Results of this survey are being studied. If the technique proves to be effective, its use at the JPL site may be expanded as the cleanup work progresses.

Engineers working on the cleanup have also selected a computer model they will use to study the underground contamination. The program that will be used at JPL is a three-dimensional model recognized by the EPA and the U.S. Geological Survey that is well accepted and frequently used at other Superfund sites. Data are currently being collected from local water agencies to feed into the computer model.

The Jet Propulsion Laboratory

JPL is a 176-acre research complex situated on the border between northwestern Pasadena and La Cañada Flintridge. The facility is owned by NASA. The California Institute of Technology is NASA's prime contractor at JPL.

As NASA's lead center for the exploration of the solar system with robotic spacecraft, JPL has managed missions to the Moon and all the planets of the solar system except Pluto. It has also carried out spacecraft missions in astrophysics and Earth observation, and has built sophisticated instruments that are flown on satellites managed by other NASA centers and international space agencies to study global climate change and ozone layer depletion. In addition, the Laboratory carries out work for other Federal sponsors and conducts advanced technology studies in robotics, microelectronics and high-performance computing.

JPL employs some 7,000 people. More than half the members of the workforce live within 10 miles of the facility.

Questions and Answers on Superfund

Is the drinking water in the community around JPL safe?

Absolutely. Under California law, water delivered to homes and businesses must meet state standards. When water in local wells was found to contain chemicals exceeding state standards, local water agencies switched to other water sources or used treatment facilities to meet state standards.

Is it safe to play or walk in the Arroyo Seco near JPL? What about growing vegetables in neighborhoods nearby?

The contamination that will be cleaned up at JPL is in the form of very small levels of chemicals in groundwater basins tens to hundreds of feet below the surface. There is no reason to believe that this poses any threat to people or plants on the surface.

Will money from the Superfund go toward this cleanup?

Under Federal law, Superfund money is used to finance cleanup when responsibility for contamination cannot be established, or the responsible parties cannot or will not pay for cleanup. If the responsibility lies only with a Federal agency such as NASA, Superfund money is not available.

Is JPL doing anything now that is adding to the contamination?

Absolutely not. Throughout its history, JPL has always complied with environmental laws. Although the sources of any contamination at JPL have not been conclusively identified, it is believed that any contamination may have resulted from then-accepted waste disposal practices in the 1940s and 1950s. These practices have long since been discontinued; waste disposal at JPL rigorously follows state and Federal law.

Community Relations

As the cleanup effort progresses, JPL's community relations program will keep the Laboratory's neighbors informed of developments and will solicit their feedback. As part of this program, information repositories containing copies of documents related to the cleanup will be maintained and updated at these local sites:

- *Pasadena Central Library*
  285 East Walnut
  Pasadena

- *La Cañada Flintridge Public Library*
  4545 West Oakwood Avenue
  La Cañada Flintridge

- *Altadena Public Library*
  600 East Mariposa Street
  Altadena

For more information on the cleanup effort and community involvement, please call or write the Public Services Office, Mail Stop 180-205, Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena CA 91109-8099; telephone (818) 354-0112.

NASA
National Aeronautics and Space Administration

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